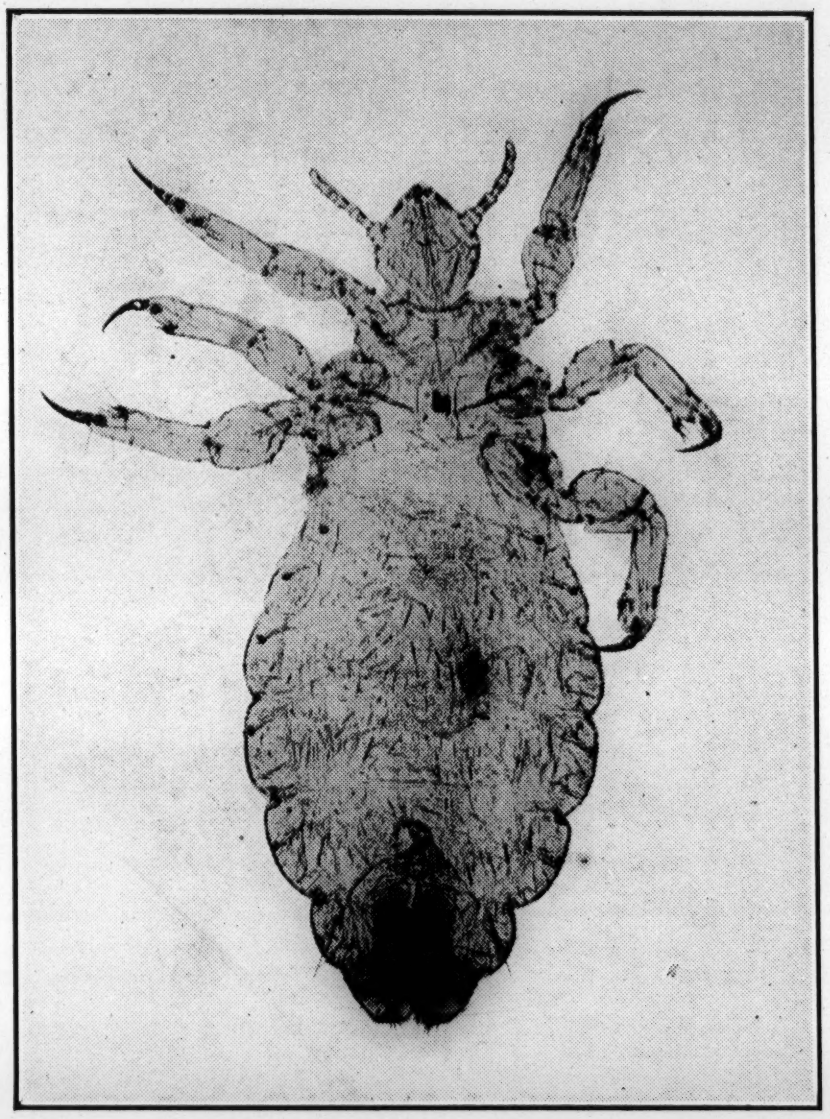
CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN



The "cootie," *pediculus vestimenti,* which transmits typhus fever and trench fever. Typhus is now widely prevalent in many parts of the world, and is epidemic in several Pacific ports of South America. California communities must not tolerate conditions that may favor the development of these dangerous insects.

¶ STATE CONTROL OF LEPERS
WHAT ABOUT MALARIA?

¶ DECEMBER, 1919

California State Board of Health.

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THE RESPONSIBILITY OF THE COMMUNITY IN THE CONTROL OF VENEREAL DISEASE.*

By Dr. Walter M. Dickie, Sanitarian, Bureau of Social Hygiene, State Board of Health.

As with many other problems affecting us as a community, it took the war to arouse us to our full responsibility in dealing with two diseases that for centuries have been permitted to spread almost unchecked—partly through ignorance, but mostly because of the silence of cowardice and because of a false and fatal prudery.

These diseases, syphilis and gonorrhœa, have done more to destroy the health and happiness of the civilized nations than all other diseases combined. They strike at humanity during the years of maximum physical and mental effort, representing a loss in wealth that can not be surmised.

While many of us who have been intimately associated with the treatment of those suffering from syphilis and gonorrhœa have realized this terrible economic waste and untold suffering, it was not until we were actually confronted with these conditions that we were willing to tolerate even a discussion of this subject.

The records of our own draft army, as it was mobilized, were indicative of conditions in the individual communities throughout the country, and not until these records revealed the appalling truth did we wake up to the fact that something must be done, and done quickly and thoroughly, to root up practices and to rout out customs that are as old as the world and that for centuries have been accepted as irremediable.

Profiting by the experience of our European allies, the United States government, upon our entrance into the world conflict, prepared to attack the menace which threatened our army through the prevalence of venereal diseases. The first and foremost requirement of a soldier is that he be fit and healthy, and to this end the various agencies of the War Department outlined a comprehensive program which it presented to the individual states for enforcement.

California may point with pride to the fact that it was the first state to make an adequate appropriation for the organization of a Bureau of Social Hygiene, which should direct and co-ordinate the campaign in the various communities throughout the state, co-operating with the military, naval and public health authorities.

Now that the war is over, and the impetus of military necessity has passed we have entered a period of reconstruction and it is even more urgent that the campaign against this menace must continue. The army and navy have taken the youth of our communities, who were from 15 to 20 per cent infected, and have returned them to us practically free from venereal disease. The government has gone so far as to say that in the future no soldier who is infected will be permitted to leave any fortification or camp. It behooves us, as civil communities, to see that we do not return to pre-war conditions.

Military efficiency demanded healthy men. Industrial efficiency must be equally exacting, and no stone should be left unturned in doing away with all conditions which permit the spread of these diseases, even though it means thrusting aside the prejudice of centuries. Experience has taught us that

*Read at the Eleventh Annual Conference of State, County and Municipal Health Officials, Riverside, October 20-24, 1919.

if we are to secure proper treatment and diagnosis of the potential carrier, we must have close co-operation of the health officials, judges, police officials and all other workers. When we consider the prostitute as the potential carrier, we at once find ourselves dealing not only with a health, but with a sociological, problem as well, and our fight becomes one against vice as well as disease.

Now the responsibility has been placed by the government upon our shoulders, as a community, to continue this work. It is therefore necessary that we should organize to meet the issue. In each community an association should be formed by those interested in health and sociological problems, including, besides those officials who are directly dealing with this problem, representatives of all civic bodies, as well as members of the various women's organizations. Such a representative body of citizens will greatly facilitate the moulding of public opinion, which is necessary in carrying out any undertaking which affects the health as well as the social life of the community.

Angles of Attack.

The program, which the bureau has put in effect, has included an attack from all angles. From the medical point of view, there are four distinct points of attack:

The first deals with that group of patients with whom we must employ enforced quarantine and treatment. This includes the prostitute, the rebellious and incorrigible patient, and the prisoner.

The second point of attack is directed toward the diagnosis and treatment of that group of people who are unable to pay for adequate medical services.

The third group of patients to whom attention must be directed is the one being treated by private physicians.

The fourth point of attack must be through a campaign of education.

Prostitution, we grant, is essentially a matter for the courts to deal with, and every effort must be brought to bear to eliminate this traffic from the life of the communities, but experience has shown that until our civil authorities have been taught to recognize the close relationship of prostitution to venereal disease, no adequate action is taken by them. It is therefore necessary for us to be concerned, not only with medical diagnosis and treatment, but to demonstrate to the civil authorities the extent of infection in these women.

It has been the common practice in the past to release on bail this class of cases, and if bail was not forfeited, the offenders were brought into court and a fine was imposed, or sentence suspended, and many times they were floated on to adjoining communities. Since it is known that practically all people of this class are disease-carriers, it is essential that, when found, quarantine should be rigidly enforced and treatment administered until, in the opinion of the health officer, the case is non-infectious.

Need of Hospitals.

The question that naturally arises is "How are we, as health officers, to enforce quarantine and treatment of these cases unless some place of restraint is provided where those infected may receive adequate treatment?"

Special isolation hospitals should be provided in the individual communities, or, where advisable, one or more may combine in the conduct of a common institution. Many such institutions have been provided already in this state.

The mentality of all cases should be determined by trained psychologists, and, where found defective, provision should be made for their permanent

care. To accommodate these it becomes necessary that increased facilities be provided for them in our institutions for the care of the feeble-minded, for, if allowed to return to society after a period of time, they will only fail again.

For those, on the other hand, who are confirmed offenders, industrial homes should be provided where they may be forcibly detained under long-term commitments and where they may be taught some useful occupation whereby they may earn an honest living when returned to society; whereas, that group consisting of first or young offenders, may, through proper social agencies, be almost immediately returned to society.

The commercial prostitute is a prolific spreader of diseases because she nearly always has gonorrhœa, which may be chronic in nature, and particularly because, if allowed to practice her profession openly, she daily exposes from ten to twenty or more patrons. From the standpoint of syphilis, she is not so important, as she contracts it early and therefore is likely to take enough treatment to keep the disease under control.

Clandestine prostitutes are a danger, not so much on account of the number of persons they expose individually, as because there are a great many of them, and, being youthful offenders, are more likely to be acutely infected and less informed as to the care of themselves and their patrons. With commercial prostitutes, the burden of blame rests upon the woman, as she more frequently solicits the man. With clandestine prostitution, the man and the woman alike should feel the burden of the law, and it is certain there would be fewer such exposures if the man could expect a jail sentence or hospital quarantine for his venereal disease. There are communities where judges enforce the single standard and men receive jail sentences the same as women.

Lack of Facilities.

In all our penal institutions treatment should be instituted where indicated. In most cases, state prisons provide adequate hospital facilities, but rarely do we find any attempt to treat prisoners in city and county jails. Among the class of people concerned, there is a natural tendency to disregard the rights of others. Arrangements should be made for a careful examination, including a Wassermann test, in the case of every prisoner, and treatment should be instituted. In these institutions either adequate dispensaries or isolation wards should be provided where quarantine and treatment may be given during the period of commitment. In many of our jails, all prisoners, both male and female, are examined, and, if found infected with venereal disease, adequate treatment is administered and, if necessary, quarantine is extended beyond the time of sentence, so that in no case is the individual allowed his freedom while still in an infected condition.

Careful investigation has revealed the fact that only 50 per cent of patients suffering from these diseases receive adequate treatment at the hands of competent practitioners; the remainder receive little, if any, treatment, and this invariably at the hands of quacks or from drug stores. To stop this self-medication, which is ineffective or harmful, laws should be enacted permitting only registered physicians to give or prescribe these remedies.

Danger of Neglect.

In connection with this latter group, emphasis should be placed upon the fact that the small amount of treatment these cases receive does no good from the public health standpoint. This, of course, is more true with gonorrhœa

than syphilis, since the one is infectious as long as it is present, whereas the other may be rendered temporarily non-infectious. The great need is the placing of each patient in that condition in which he or she will not be a danger to others. The man or woman, then, who can only afford to pay for a little treatment, should be sent to a dispensary or hospital where he or she may receive expert treatment. This brings up immediately the need for increased hospital and dispensary facilities.

Investigation has disclosed that many large hospitals throughout the country, even those supported by public funds, do not admit acute cases of syphilis and gonorrhœa to their wards, this in spite of the fact that there is always a considerable proportion of patients present in such hospitals suffering from the end results of such diseases. Pressure should be brought to bear to see to it that every hospital supported by public funds admits cases of syphilis and gonorrhœa under exactly the same conditions as other patients are received.

This would place at the disposal of the health officer the facilities for the treatment and care of those cases which should be quarantined, but in which forcible restraint is not necessary.

Adequate dispensary facilities should be maintained in the various communities, and, where possible, should be established in conjunction with clinics for treatment of other diseases; and when these dispensaries are started they should be adequately provided for and brought up to the standards adopted by the board of health.

In conjunction with all institutions treating syphilis and gonorrhœa, an adequate social service department should be maintained in order that these cases may be kept under observation and treatment continued beyond the period of quarantine. A careful sociological history should be taken so that it may be determined what disposition to make of each individual case; otherwise, few are really cured and many return to society to be reinfected.

Control of Private Patients.

If physicians are to be held responsible for the adequate treatment of these cases, physician and patient must observe the regulations requiring the reporting of all cases by number to the State Board of Health, and where patients lapse in their treatment the name and address should be reported in order that treatment may be continued and others protected from infection. The patient should be carefully informed that these records are absolutely confidential, and so long as he continues treatment and conforms to the necessary rules his name and address need not be divulged, and if it becomes necessary to report the name and address, the health officer's record is private and confidential.

The control of these cases depends entirely upon the hearty co-operation of the medical profession, both individually and collectively.

Education.

The most important single point of attack is through the proper education of the individual, as well as of the community, in the danger of these diseases—to their prevalence and to the necessity of long continued treatment.

In our normal schools, courses of instruction should be provided for the prospective teacher in order that sex education may become a part of our school curriculum.

A campaign is now being carried on by the bureau, through lectures, special literature and moving picture films, among the different groups of people in the different communities. Pamphlets on social hygiene suitable for adults, boys and girls, are being distributed and, wherever men and women are employed in numbers, lectures are being given and suitable literature distributed.

From this brief resume it may be readily seen that the responsibility for the control of venereal disease is largely that of the civil community, whose co-operation is essential to the successful prosecution of this campaign.

There must be a frank and intelligent discussion of the subject and earnest study on the part of those who are entrusted with the welfare of the community. Protective work for girls must be provided through special trained workers and steps taken for the better control of subnormals of both sexes. Healthy recreation should be provided for boys and girls and parents should be enlightened as to the urgent need of watchful care of their children and the necessity for home control.

WHAT SHALL WE DO WITH OUR INFORMATION CONCERNING MALARIA IN CALIFORNIA?*

By William B. Herms, Associate Professor of Parasitology in the University of California, Consulting Entomologist for the State Board of Health and Member National Malaria Committee.

The control of malaria presents the biggest rural sanitary problem in California today. Alarming as this statement seems, it may nevertheless be met by the equally bold but reassuring statement that the malaria rate for the state as a whole has been reduced by not less than 60 per cent during the last ten years, and at the same rate of progress, if we continue to apply wisely the knowledge which we now possess, another ten years should see California practically free from the bonds of this disease. This can be accomplished despite the increasing difficulties due to the multiplication of irrigation projects. It has been said in the past that malaria inevitably follows the introduction of irrigation, and that the benefits of the latter can not be enjoyed without also suffering the pain and the losses of the former. We now know the full enjoyment of the blessings of irrigation is possible (note in this connection irrigation south of Tehachapi) without having to live almost constantly in the dark shadow of malaria, provided correct methods are employed, including particularly wise provisions for adequate drainage, thus not only guarding against disease but at the same time establishing better agricultural practice. Proper drainage in particular means better health and increased crops.

No irrigation project is complete without more careful provisions for drainage, especially under climatic conditions favorable for the development of Anopheline mosquitoes, notably the great central valleys and the Sierra foothills. An outstanding example of the disastrous results of an imperfect irrigation project may be seen in the Anderson-Cottonwood irrigation district of Shasta County, with its concomitant curse of malaria. In this district malaria was of little consequence prior to the building of the irrigation canal (although both the disease and malaria bearing mosquitoes existed here for a number of years prior to this), but within a year of the introduction of water into the ditch, lacking

*Read at the Eleventh Annual Conference of State, County and Municipal Health Officials, Riverside, October 20-24, 1919.

an adequate drainage system, malaria had increased to an alarming extent. A survey including 118 persons showed a history incidence (having had malaria within three months) of 72.5 per cent and a positive blood smear incidence of 29.2 per cent. Comparing this percentage rate of infection (based on positive smears only) with the rate of malaria infection in Mississippi, Louisiana, Alabama and other notoriously malarial states, it must be admitted that we have a real problem of our own, namely, von Esdorf[1] (U.S.P.H.S.) gives the blood smear rate (highest recorded) for Scott, Mississippi, at 41.55, Cedars, Mississippi, at 33.6 and Rockingham, N. C., 31.5; all other localities studied (a total of 45) in Alabama, Arkansas, North Carolina, Mississippi, South Carolina and Virginia showed a rate much less than that of Anderson. California as a whole, on the other hand, stands in much better repute as regards malaria, namely, our state death rate from malaria was only 1.84 per 100,000 population in 1916, against 5.9 for whites and 8.4 for colored per 100,000 for the same year in Mississippi, where the highest local percentage of infection was recorded, namely 41.55 at Scott, as above stated.

Information Is Essential to Intelligent Action.

That the malaria rate for California has never been high compared with other states has led to a feeling of resentment and skepticism in past years, expressed in the customary phrase, "You are making a mountain out of a molehill." Rather extensive travel about the state and intimate contact with the rural population made it clear to me long ago that the mountain was there, but that it was hidden behind the molehills of fear—fear of adverse publicity. The writer's earliest campaigns against malaria, carried on in Butte and Placer counties in 1909 and 1910, bore other than local fruit in that general interest was awakened in the subject of malaria and a changed attitude toward publicity. Communities now desire wide publicity when anti-malaria campaigns are inaugurated.

I will admit that it did look like the magnification of a molehill when California's malaria death rate for 1910, for example, stood at 4.8 per 100,000 against the same rate for the registration area of the United States, which area excludes practically all of the so-called malarial states. On this basis, therefore, we could not by any stretch of the imagination call this a malarial state. It is, however, no stretch of the imagination to compare California's area of 153,650 square miles to the combined areas of Mississippi, Louisiana and Alabama. The thirteen most malarial counties in the state,[2] harboring three-fifths of all of our malaria, comprise an area of about 20,000 square miles with a death rate of 14.2 per 100,000 for 1916. These counties comprise an area nearly half the size of Mississippi which has a death rate of 5.9 per 100,000 for the white population (8.4 for colored). In other words, these thirteen counties have a malarial death rate more than twice that of Mississippi—a notoriously malarial state. Furthermore, Shasta County, with an area of about 3,800 square miles, had a malarial death rate of 64.1 per 100,000 population in 1918. Nearly all of Shasta County's malaria is localized in an area comprising not over 100 square miles. Here lies the reason then for our apathetic attitude—namely, a lack of information about our own affairs.

We must have facts, *i.e.*, correct information, and be governed accordingly. In this connection the importance of conscientious morbidity reporting by

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[1]von Esdorf, R. H., 1916. Endemic Index of Malaria in the United States. U. S. Public Health Reports, March 31, 1916, pp. 819-828. Washington, D. C.

[2]Shasta, Butte, Tehama, Yuba, Amador, El Dorado, Calaveras, Kings, Sutter, Yolo, Placer, Glenn, and Sacramento.

physicians can not be too strongly emphasized. Malaria morbidity reporting is woefully inadequate; for example, for 1918, Shasta County reported 13 cases and 13 deaths from malaria; for 1917, 22 cases and 5 deaths; for 1916, 1 case and 2 deaths. Kings County, ranking first in malaria death rate for the San Joaquin Valley for the ten-year period 1909-1918, only reported 45 cases during the past five years, against a total of 28 deaths in the same period. For the entire state only 667 cases were reported for 1918 with 56 deaths. A conservative estimate of the number of cases for each death from malaria is placed at about 100, which calls for a total of about 5,600 cases in 1918, or nine times as many as were actually reported. On this basis it was estimated that on an average 1 in every 14 inhabitants of Shasta County had malaria last year, or for the actually infected portion 3 out of every 4.

Rice Culture and Malaria.

The rice fields as affecting mosquitoes and malaria have been carefully observed during the past several years, and as a result we are more firmly grounded in our belief than ever that while rice culture as practiced in California is responsible for vast hordes of mosquitoes, many of which are Anopheline, there has been thus far apparently little or no increase of malaria in consequence. Dr. J. C. Geiger, who was sent to California early in the spring of this year by the United States Public Health Service to study the rice fields as regards malaria, told me personally just prior to his leaving the state that the rice fields have not increased the malaria incidence by one iota. Hoffman,[1] Statistician for the Prudential Insurance Company and Chairman of the Subcommittee on Statistics, National Malaria Committee, says (p. 59): "As a general rule malaria is not of extraordinary frequency on the rice lands of Louisiana and northern Texas."

In spite of facts to the contrary, there are those, including the author of the above statement, who still insist that California would be far better off if neither irrigation nor rice culture had been introduced. Both irrigation and rice have great economic value, and with this value there is closely tied up the factor of responsibility on the part of the gainers towards others, their neighbors, even in the absence of the former. "No man can live unto himself alone." The greater his affluence the greater his responsibility.

In the matter of irrigation the responsibility relates to the care of the ditch, improvement of present methods, drainage, etc. In the matter of rice culture the responsibility relates to improvements in the present method of rice culture, preventing seepage and drainage pools outside the rice fields proper, etc., as expressed in greater detail in State Board of Health Special Bulletin No. 9 on Malaria and Mosquito Control, pp. 16-19.

Cinchonization.

Inasmuch as cinchonization (quinine treatment and prophylaxis) has been urged as a possible method of malaria control in California, a few remarks in this connection are in order. The Rockefeller Foundation in its "Review for 1918" presents a few facts concerning this which may bear reasonable comparison, insofar as both measures (*i.e.*, mosquito control and treatment of carriers, it is assumed with some form of quinine, although this is not stated) were carried out under the direction of the same organization. In Hamburg, Arkansas, a reduction of 97.4 per cent was secured by mosquito

[1]Hoffman, Frederick L., 1918. The Malaria Problem in Peace and War. The Prudential Press, Newark, N. J. 101 pages.

control at a cost of $1.45 per capita in 1917; for 1918 it was only 44 cents. Neither this cost nor the next includes the overhead expenses of supervision by representatives of the board. In Sunflower County, Mississippi, a demonstration was undertaken by the Foundation's International Health Board aimed at curing the carriers. A control of 80 per cent was secured in the rural area at an initial per capita cost of $1.08. This would appear to throw favorable light on this method of malaria control, namely, treatment of carriers. It will be remembered in this connection that the Italian government placed much reliance upon this method before the great war. I have just recently been informed upon good authority that malaria increased about 300 per cent in Italy during the war, because of the breaking down of control. Had the several millions of dollars invested in quinine prior to the war been applied to mosquito control in its permanent drainage aspects, little or no reverse would have been suffered during the same. Universal cinchonization in California's malarial sections would not be tolerated. Our citizenship places too high a value upon its personal liberties. I do insist, however, that the detection and quinine treatment of human malaria carriers is a valuable adjunct and should be employed particularly during the autumn and winter months in all districts where malaria-mosquito control operations are in progress. At Anderson (Shasta County), where a carefully supervised malaria control district is in operation, the treatment of cases is being diligently pursued in addition to the application of the best known methods of mosquito control.

Malaria-Mosquito Survey.

Probably the most important conference on malaria ever held in California was that of the Commonwealth Club at the Hotel St. Francis in San Francisco, March 8, 1916.[1] This conference was called primarily to hear the report of the committee on malaria of which Dr. George E. Ebright, President of the State Board of Health, was chairman. The program, in addition to the formal report of the committee by Dr. Ebright, consisted of papers presented by Dr. Ray Lyman Wilbur, President of Stanford University, Dr. Karl F. Meyer, Associate Professor of Tropical Medicine in the University of California, Dr. George H. Whipple, Director of the Hooper Foundation for Medical Research, and an illustrated lecture by the writer. At this conference the need of a systematic malaria-mosquito survey was emphasized in addition to the presentation of two recommendations by the committee, viz:

First, that mosquito control districts be formed which shall cover all malaria infected areas in California and that this be done as rapidly as possible.

Second, that if by the end of the year 1916 this plan be found ineffectual or unsatisfactory, the legislature should appropriate funds to be used by the State Board of Health to employ a sufficient number of inspectors to undertake the field work of malaria extermination under the present authority of the State Board of Health.

The resolution adopted by the State Board of Health March 4, 1916, authorizing the survey, is as follows: "That the State Board of Health undertake, in co-operation with the University of California, a survey of malaria and mosquitoes in California under the direction of Professor W. B. Herms, assisted by Mr. S. B. Freeborn, provided the funds of the board will

[1]The Malaria Problem. 1916. Tr. of the Commonwealth Club of California. Vol. XI, No. 1 (March, 1916), 40 pp.

permit of the financing of the plan." The plan considered at that time is outlined, viz:

A. Mosquitoes.

1. Collection of mosquitoes of all available species in all parts of the state, particularly for the purpose of determining the distribution of Anophelines in California. This collection to be made in person by Herms and Freeborn or authorized representatives.

2. Observations at all points where mosquitoes are found relative to mosquito breeding in order to ascertain nature of necessary control measures.

3. Photographic records of typical breeding places.

4. Special study of rice field mosquitoes—species, breeding habits and control methods.

5. Ecological factors governing distribution of Anophelines.

B. Infectivity Experiments.

To be carried on at a field laboratory, probably in the vicinity of Chico.

1. *Anopheles pseudopunctipennis,* believed to be a weak or ineffective carrier of malaria. Tests with reference to viability for malaria parasites.

2. *Anopheles occidentalis,* believed to be identical with *Anopheles quadrimaculatus* and a carrier of all three types of malaria. Tests relative to efficiency in transmission of all forms of malaria.

3. Infectivity experiments under specific ecological conditions (heat, humidity, etc.) to determine cause of restriction of malaria in various localities in the presence of Anophelines.

C. Endemic Index.

Select representative communities in the Sacramento and San Joaquin valleys and determine endemic index for malaria.

D. Organize a Demonstration Mosquito Abatement District.

In conjunction with a field laboratory it would be highly desirable to conduct a mosquito abatement district to include some rice fields, if possible, in order to demonstrate efficiency of methods already known.

E. Educational.

1. Distribution of literature relating to mosquitoes and malaria.

2. Lectures illustrated with lantern slides and living material if possible.

3. Conferences with health officers, city officials, supervisors and other interested persons.

4. Local demonstrations in the application of oil, location of breeding places, etc.

Much greater progress in the development of the above plan could be reported today if the great war had not compelled a delay in these activities. However, much has been accomplished in spite of this delay and in spite of meager funds. The above plan has been adhered to rather closely and sundry progress reports of the malaria-mosquito survey have been published.[1, 2, 3] It is sufficient to state at this time that the writer and a small

[1]Herms, William B., 1917. A State-wide Malaria-mosquito Survey of California. Journ. of Economic Entomology. Vol. 10, No. 3 (June, 1917), pp. 359-370.

[2]Herms, William B., 1917. The Mosquito Survey of California, an account of the second season's work. Cal. State Board of Health Monthly Bull., Vol. 13, No. 6 (Dec. 1917), pp. 267-271.

[3]Herms, William B., 1919. Occurrence of Malaria and Anopheline Mosquitoes in Northern California. U. S. Public Health Reports. Vol. 34, No. 29, July 18, 1919, pp. 1579-1587.

group of assistants covered over 18,000 miles by automobile in carrying out the work of the survey. Every county in the state was visited and elevations were reached ranging from about 200 feet below sea level in the Imperial Valley to about 10,000 feet above in Tuolumne County, on the Tioga road. The highest elevation at which malaria was encountered together with Anopheline mosquitoes was 5,482 feet in Sierra County. A total of 690 mosquito collections were made, consisting of 6.650 mosquitoes. A card index of all localities visited is now in course of preparation. Each card will show the species of mosquitoes taken at a given point, occurrence of malaria, data concerning mosquito breeding places, measures taken for control, if any, recommendations and sundry remarks—all based on information collected during the survey with additional information secured on other occasions. A map of the state is also in preparation showing by means of colored pins the distribution of Anopheline mosquitoes and location of mosquito abatement districts.

Briefly summarizing the information gained directly or indirectly during the course of the survey it may be said that—

1. Anopheline mosquitoes were taken in all but the following California counties, viz: Alpine, Del Norte, Imperial, Inyo and Mono, and that more extensive search might reveal them in one or more of these, notably Imperial and Inyo. These Anophelines are of three species, namely, *Anophelines quadrimaculatus* (inclusive of *A. occidentalis*), *Anopheles punctipennis,* and *Anopheles pseudopunctipennis,* of which the latter is most widespread in its occurrence. Two of these three species, namely *A. quadrimaculatus* and *A. punctipennis,* are known to be efficient carriers of malaria, and the third, *A. pseudopunctipennis,* is negligible and may be safely disregarded in malaria control operations.

2. Malaria is not a widespread disease, of which fact we were already aware, but where it does occur it is at least equal to, if not more than twice as prevalent as it is in the more malarial states of the South. Our badly infected area is about half the size of Mississippi and the disease is more than twice as prevalent as it is in that state. It is now possible to definitely point out each and every endemic focus.

3. Results obtained in organizing and operating malaria control districts according to recommendations made by proper authorities of the State Board of Health and the University of California prove these methods to be reliable and effective.[1, 2] Continuation of these methods is recommended, with added stress on permanent correction.

4. Organization of mosquito abatement districts under an act of the same name has continued until there are now thirteen in existence, of which eight are for the purpose of malaria control.[3] This act does not fulfil the requirements for two reason: first, it does not provide adequate funds for control operations, and second, it does not provide uniform and effective administration and operation. This act was not originally intended to cover anything but the salt marsh mosquito problem.

5. The mosquito abatement district at Anderson, Shasta County, is being operated by and is in full control of the State Board of Health in order to demonstrate the efficacy of malaria control methods under expert supervision with adequate financial support and under a severe test as to the prevalence of malaria. For this purpose the state has furnished the sum of $10,000.

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[1]Herms, William B., 1915. Successful Methods of Attack on Malaria in California. Calif. State Journ. of Medicine. Vol. xiii, No. 5 (May, 1915), pp. 185-189.

[2]Herms, William B., 1916. Malaria and Mosquito Control. Calif. State Board of Health Special Bull. No. 9 (Dec. 15, 1916), 20 pp.

[3]Freeborn, Stanley B., 1918. Mosquito Abatement Districts in California. Calif. State Bd. of Health Monthly Bull., Vol. 13, No. 10 (April, 1918), pp. 455-459.

6. Defective irrigation methods, poor ditches and deficient drainage in irrigation, stand responsible for the major portion of California's malaria. Of secondary importance (here and there becoming primary) are numerous small streams which, as the summer advances, become chains of pools usually abounding in algæ. In the same category with these streams should be placed marshy conditions produced in certain foothill meadows due to dechannelization of water from mountain streams originating in the snow-capped Sierras.

7. Although there is relatively little Anopheline mosquito breeding in the rice fields proper, there result, due to imperfect cultural methods (expressed in innumerable seepage pools along the roadsides and borders of stagnant water outside the peripheral checks, and poor drainage after harvest) vast hordes of mosquitoes, principally non-malaria bearing, which make life miserable to those who have to live in the immediate vicinity of the fields.[1] It is believed that the rice fields have so far not materially contributed to the malaria incidence.

8. Endemic indexes have been made at several points in the northern Sacramento Valley by Doctors Kelly and Geiger.[2] It is highly desirable that this work be carried into the San Joaquin Valley as well. California has three species of malaria parasites, namely: (1) *Plasmodium vivax,* widely distributed in the malarial areas and the most common species; (2) *Plasmodium falciparum,* of considerable importance, particularly in the Sacramento Valley; and (3) *Plasmodium malariæ,* of Quartan malaria, apparently playing an unimportant role.

9. Treating and curing human malaria carriers in conjunction with malaria mosquito control operations should receive greater attention, but cinchonization as a sole method of control is not thought to be practicable as a universal practice in this state.

10. The educational campaign in the form of literature, illustrated lectures and personal work has been carried on unremittingly, and photographic records illustrating conditions as they exist in many parts of the state have been made.

11. Experiments relative to the food habits of Anopheline mosquito larvæ and other similar scientific observations are in progress, but further advance, both in control and scientific observations upon which all effective control is based, is difficult in the face of meagre organization and equipment.

Malaria Not Widespread.

An analysis of the malaria mortality statistics for California during the years 1909 to 1918 (a period of 10 years) shows that this disease is largely localized, a fact corroborated by the work of the survey, namely, excluding the metropolitan areas of San Francisco and Los Angeles, where no endemic malaria exists, and where all reported deaths from the disease represent imported cases for hospital treatment, about three-fifths of all malaria in the state occurs in thirteen counties, namely: Shasta, Butte, Tehama, Yuba, Amador, El Dorado, Calaveras, Kings, Sutter, Yolo, Placer, Glenn and Sacramento.

The Sacramento Valley has nearly twice as much malaria as the San Joaquin Valley, the mortality rate per 100,000 population for the former being 10.9 and for the latter 6.2, based on the above ten-year period, the highest rate

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[1]Freeborn, Stanley B. 1917. The Rice Fields as a Factor in the Control of Malaria. Journ. Econ. Entomology, Vol. 10, No. 3 (June, 1917), pp. 354-359.

[2]Kelly, F. L., and Geiger, J. C. 1916. Endemic Index of Malaria in the Northern Sacramento Valley. California Journ. Amer. Med. Assoc. Vol. LXVIII, No. 18, pp. 1319-1320.

for the Sacramento Valley being held (excluding Shasta) by Butte, Yuba and Sutter counties, while for the San Joaquin Valley the highest rate is held by Kings, Merced and Kern, with Tulare close on the heels of the latter.

About 60 per cent of the state's malaria cases exist in the northern third, and 80 per cent of this in sixteen out of the thirty counties. More than 50 per cent of all the mosquitoes collected in the northern California counties were Anopheline and 80 per cent of these Anophelines collected in the sixteen counties where occurred 80 per cent of the malaria were *Anopheles quadrimaculatus* and *Anopheles punctipennis,* efficient carriers of malaria. In other words, two out of every five mosquitoes collected of all species (Culicines and Anophelines) in these sixteen counties were at least potential carriers of malaria.

The coastal counties from Del Norte to San Diego, including the metropolitan areas of San Francisco and Los Angeles, but excluding the deaths reported from the latter two areas because of the absence in these of endemic malaria, show a malaria mortality rate for the ten-year period, 1909-1918, of .4 per 100,000. The following eighteen counties, taking the state as a whole, have a malaria death rate of less than 1 per 100,000 population, *i.e.*, practically no endemic malaria; viz, Lake 0, Del Norte 0, Marin 0, Alpine 0, Mono 0, Mariposa 0, San Bernardino .1, Monterey .4, Santa Clara .6, Humboldt .6, Trinity .6, Alameda .7, Orange .7, San Diego .7, Los Angeles .8, Mendocino .8, San Mateo .9 and San Francisco, which latter should be included in this list, although showing a higher rate owing to hospitalized cases from inland counties.

Financial Aspects.

With the exception of the Anderson district, which is being operated on funds provided by the State Board of Health, the present method of financing based on the Mosquito Abatement District Act does not permit the operation of any of the present districts on an adequate basis. In this respect the Mosquito Abatement Districts Act does not fulfil the requirements. Indeed, this act was originally only intended to apply to the salt marsh mosquitoes invading the wealthier districts south of and in the vicinity of San Francisco. The salt marsh districts, owing to the higher assessed valuation of the real estate involved, provide adequate funds for mosquito control. Unless the inland districts, organized for purposes of malaria-mosquito abatement, include a larger community with real estate of relative high value, woefully inadequate sums can be raised even with the limit of 10 cents per $100. For example, the Anderson district could only raise $278 for purposes of malaria control under the act, whereas it was estimated that $10,000 would be needed to carry out a really adequate campaign embodying the optimum amount of protection. This, in a nutshell, points out the weakness of the act under which we are at present operating. State aid is absolutely essential if an adequate program is to be projected for the ultimate control of malaria in this state.

The malaria survey has, furthermore, made it possible to estimate more accurately the financial loss which California sustains annually from malaria. The eighteen counties listed above as practically free from malaria are not directly affected to a large enough extent to charge any loss to malaria, and the remaining counties are affected as a rule only in spots, hence a tabulation of counties has been based on the actually infected areas excluding large communities known to be free from malaria and including such as are known to be malarial, also carrying into account the number of farms, estimating one

family of five persons per farm. The average annual loss per family is estimated at $30,[1] including cost of medicine, medical service and labor loss. At this rate, the total estimated annual loss for 1918 sustained by the State of California traceable directly to malaria, is about $1,600,000. Twice this amount could easily be accounted for if the following items were charged—namely, property depreciation, losses due to vacant property, forced sales, inability to handle crops at the proper time, moving expenses of families leaving malarial districts and funeral expenses.

In this connection the following quotation from a paper by Carter[2] on the "Malaria Problem of the South" is apropos, viz: "It is not in its death rate that the gravest injury of malaria lies; it is in its sickness rate, in the loss of efficiency it causes, rather than in the loss of life. One death from pneumonia ordinarily corresponds to about 125 sick days—work days lost; one from typhoid fever to 450 to 500 sick days; one from tuberculosis to somewhat more than this among whites. * * * A death from malaria, however, corresponds to from 2,000 to 4,000 sick days. This loss of efficiency may really be doubled or trebled, for the man infected with malaria is frequently half sick all the time. * * * The loss of efficiency caused by malaria in the country of the malarious section is beyond comparison greater than that caused by any other disease, or even by any two or three diseases combined, including typhoid fever and tuberculosis."

In 1918 there were 5,887 deaths from tuberculosis in California, amounting to a loss of (5,887 × 500) 2,944,500 work days; there were 187 deaths from typhoid, amounting to a loss of (187 × 450) 84,150 work days; and 56 deaths from malaria, with a loss of (56 × 3,000) 168,000 work days—a total loss to California of about 3,200,000 work days. In control work against typhoid fever the state spent between $35,000 and $50,000 in 1918. Assuming that this amount was justified, for such it actually was, because there was a reduction of about 12 per cent in the typhoid rate for last year, there should have been expended in proportion for malaria control between $70,000 and $100,000 because the total number of work days lost is double that of typhoid fever. As a matter of fact, the state spent about $5,000 in malaria control in 1918 and the malaria death rate went up from 1.5 per 100,000 in 1917 to 1.8 in 1918, an increase of about 20 per cent. In the matter of tuberculosis control on the typhoid basis the state should have spent about $1,750,000 in 1918, against $1,673,600 actually spent.

The annual amount, $70,000 to $100,000, for malaria control, arrived at on a reasonable basis, represents from 4½ per cent to 6 per cent of the total direct annual loss which the state sustains from malaria, namely, $1,600,000. This is not an unreasonable amount on a pure business basis, and in its practical administration and application would be about all that could be judiciously handled in the course of a year.

That the necessary amount for control would rapidly diminish after the course of a few years, depending on the rate at which the infected areas can be covered, stands to reason and is evidenced by past experience.

My plea is not for less expenditure in the control of tuberculosis and typhoid fever, but rather a plea for a proportional effort in the control of malaria. Typhoid fever, tuberculosis and malaria are by far our most important preventable diseases. God speed the day when their seed shall no longer blight this fair state. The fight is well begun, the battle is on, and victory will certainly follow.

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[1]Gray, Harold Farnsworth, 1919. The Cost of Malaria. Journ. Amer. Med. Assoc. Vol. 72 (May 24, 1919), pp. 1533-1535.

[2]Carter, H. R., 1919. The Malaria Problem of the South. U. S. Public Health Reports, Vol. 34, No. 34 (August 22, 1919), pp. 1927-1935.

STATE CONTROL (INSTITUTIONAL OR OTHERWISE) OF LEPERS.*

By Dr. Wm. C. Hassler, Health Officer, San Francisco.

For years past the care and control of lepers has been a problem for the various health officers throughout the State of California, solved only too frequently by forwarding the victim to San Francisco, Oakland or Los Angeles, where for the purpose of remaining in a fairly decent and comfortable shelter the leper will agree with the findings of the distant county health officer that he is or was (just as his fancy may dictate) a resident of either one or the other of the three larger centers, and having established his right for care, becomes the burden of the community until he again decides to wander. The great majority of lepers in the United States are ambulatory and travel freely between cities and states, having preferential places for stopping in each state, and it is only when the disease has progressed to a stage that prevents moving about that the leper seeks his final home.

In doing this the leper carefully weighs two factors: first, the care, food and character of the shelter; second, the proximity of friends or relatives.

In California there are at the present time under quarantine, according to the figures of the State Board of Health for 1919, 46 lepers and 3 escapes, distributed as follows:

Alameda County	6	
Contra Costa County	1	(now being paid for at the San Francisco Leprosarium)
Fresno County	3	
Imperial County	1	
Los Angeles County	10	
Monterey County	1	
Santa Clara County	1	
San Francisco County	18	
San Joaquin County	2	
San Mateo County	1	
Sacramento (city)	1	(cared for at San Francisco)
Solano County	1	(cared for at San Francisco)
Total	46	

In the above table it is noted that three cases from outside counties are cared for at San Francisco, at a monthly cost of $45 per patient, which, with the present high cost of food and clothing, we find inadequate to cover the expense of their keep.

Is the Leper a Public Menace?

Although authorities are not agreed upon the manner of its transmission, it is agreed that leprosy is a communicable disease, hence the leper must be classed as a public menace, for no one is competent to judge when the quiescent or dormant periods which some cases assume become active. In other words, we are dealing with a chronic type of disease in which there is at all times a potential danger, and most of the time an active menace, the victim of which, for public safety, should be kept in humane confinement in a controlled leper-isolation hospital. This hospital should not be located near the larger cities, but might well be a part of an existing state institution, until such time as the United States government establishes the national leprosarium.

*Read at the Eleventh Annual Conference of State, County and Municipal Health Officials, Riverside, October 20-24, 1919.

No county in California has at the present time a properly controlled leprosarium. The records of the State Board of Health show that in 1918 nineteen lepers escaped from quarantine and three escaped to date for 1919.

Are There Many Uncontrolled Lepers?

In discussing the subject of escaped lepers and leprosy with our patients—white, Chinese and Japanese—all concur that only the really indigent and sorely afflicted are in restraint, and that by far the greater number are at large.

Young Chinese girls known to have leprosy keep themselves well under cover and go forth at night for treatment by herb doctors in Chinatown. This is done also by male Chinese. It is claimed that many of the high-binder type and gamblers are so afflicted in all of the cities and towns of this state.

Los Angeles is reported to have many Mexican lepers, who work in the orange groves in the winter and go to surrounding towns in the summer as fruit pickers. Many of the Greeks and Italians working in and about Fresno in the summer time are lepers. Stockton is reported, as well as other of the interior towns, as having numerous Chinese lepers, who drift to these towns after they have become known to the Chinese in the cities as being lepers.

What Is the Law Regarding the Deportation of Lepers?

The great majority of lepers in the United States are of foreign birth, and after a five-year residence can not be forcibly deported.

To transport a leper from one state to another in America requires first the consent of the United States Public Health Service and the consent of the state health officer of each state through which he must pass to his destination, as well as the consent of the state health authorities, after establishing proof of residence in the state to which he is to be transported, all of which involves a mass of red tape that is long drawn out, exceedingly vexatious, and in the end usually unsatisfactory.

In addition, the carrier—if by rail—must have the sanction of the Railroad Commission and be assured that the leper is accompanied by a competent attendant. All of which is an expensive procedure and usually results in the city or county keeping the leper, hoping he will sooner or later make his escape or die.

During the past three years San Francisco has succeeded in deporting three lepers to the Philippines, one to China, and one to Hawaii.

At the present time we have in our leper hospital seven white men, all of whom have at some time been in the United States government service in the islands, and all were, in the strict sense of the word, nonresidents. We have also two Chinese who claim American nativity, ten Chinese who have lived in California for more than five years, one Japanese, and one Filipino woman who worked for three years as maid in a home in this city, but who has lived seven years in California.

None of the above, therefore, can be deported, and undoubtedly the history of the San Francisco lepers is the history of those confined in other cities or counties.

Control of Lepers a National Problem.

With no restrictions upon the entry of Filipinos, Hawaiians or Mexicans into the United States, and with the lure of high wages and actual shortage of labor, many more lepers will be found in the next decade than would occur

if conditions existed as they were before the war; therefore, the problem assumes more forcefully a legitimate national aspect than ever before, and this responsibility has been acknowledged and Bill H. R. 193—December, 1915—passed and Congress has set aside the sum of $250,000 for the construction of a national leprosarium.

As the government has recognized this problem as a national one, and as the state bears the same relationship to the government that counties bear to the state, therefore, leprosy in California is a state problem and not a municipal or county one. It is, therefore, proper for this convention of city and county health officers to discuss the situation, and, if possible, arrive at an agreement whereby we can recommend to the State Board of Health the care and control, institutional or otherwise, of the lepers in this state until such time as the national leprosarium is ready to receive them. With this thought before us, I would suggest two resolutions:

1. That in view of the fact that most of the lepers in California belong either in the Pacific islands or on the Pacific side of the continent, the State Board of Health take up the subject of the removal of all cases to one or the other of the established leprosariums in the Pacific (either Philippines or Hawaii) and the territorial government of Hawaii and the insular department be assured that the counties will pay the pro rata per capita tax for their care.

2. In the event that this radical procedure would be impossible the state should designate either a state institution or two local county institutions, one for male and one for female lepers, assuming the responsibility for county payments of the per capita per diem cost of maintenance. This will result in a more equitable adjudication of the question of the county responsibility and liability and it will reduce the cost of maintenance. The segregation will make for better moral conditions. It will insure better control and more humane treatment and better medical care of known lepers and enable, as well as induce, the various communities to search for suspects and ambulatory cases, because the question of their detention will be settled—all of which will enable us to discharge in full the obligation that we as health officers owe the public.

THE INFLUENZA EPIDEMIC IN PALO ALTO.*

By Louis Olson, Health Officer, Palo Alto, California.

The accompanying study of the influenza epidemic is made from the standpoint of the health officer, interested in preventing cases and obtaining as low a mortality as possible. Palo Alto, being small, the statistics will have only limited value, but they possess the advantage of dealing with a city which probably had a larger percentage of its cases reported than any other community.

Palo Alto is situated about midway between San Francisco and San Jose, and is closely connected to all the cities of the peninsula by means of rapid transportation. Several hundred commuters travel to San Francisco daily and a smaller number to San Jose. Camp Fremont, with its base hospital and remount station, bordered the city limits on two sides, and during September and October, 1918, housed its largest number of troops. Palo Alto is the seat of Stanford University, and the session for the fall of 1918 opened

*Read at the Eleventh Annual Conference of State, County and Municipal Health Officials, Riverside, October 20-24, 1919.

in the latter part of September, bringing together students from all parts of the United States.

The population within the corporate limits as of July 1, 1918, has been conservatively estimated to be 7,000, which figure will be used for the statistics of this paper. Palo Alto is the center of a thickly populated community of about 15,000 persons who patronize its institutions and places of business. This is particularly true of the local hospital, to which during the epidemic many cases were brought from the outside for treatment.

Co-operation With Physicians.

Palo Alto has for many years obtained practically a complete reporting of its communicable diseases. Before the outbreak of the epidemic each physician was notified that influenza was to be reported. During the epidemic the health department made a practice of calling up every physician at the end of each day to get the list of new cases.

A definite diagnosis of epidemic influenza was established on the first of October and six cases were reported on that date. Prior to this, suspected cases had been under observation since September 25, particularly among students of the university, among whom the first cases developed. From the above date the epidemic continued with fluctuating tendencies until the 14th of February, when the last case was reported. The outbreak showed itself in two major waves, the apex in each being reached in October and in January.

Most Cases Reported.

A grand total of 709 cases was reported, this including only cases originating in Palo Alto, and not those originating elsewhere and brought to the local hospital for treatment. This gives a case rate of 10,100 per 100,000 of population, as compared to 9,808 cases per 100,000 of population for the state. Had the same completeness of reporting existed over the entire state as did exist in Palo Alto, it is altogether probable that the case rate for the state would have been much higher. There were 362 cases in the first wave, which lasted from October 1 to November 20, and 347 cases in the second, which lasted from November 27 to February 14. The maximum number of new cases reported on any one day was 27, which was reached on October 11 and again on October 21. The maximum for one day during the second wave was reached on January 7, when 21 cases were reported. It is interesting to note in this connection that during the second wave there were no cases reported that had already been reported in the first wave. This would indicate at least a short immunity after an attack.

Testing Completeness of Reporting.

To test the completeness of the reporting of cases and determine the exact status of the epidemic a survey of the city was made on November 1. The teachers in the public schools, which were closed at the time, were secured to make the necessary canvass. From the returns it was learned that practically every case attended by a physician had been reported. It was also learned that for the month of October there were 310 cases of mild illness not attended by physicians and which may have been mild influenza. For the same period (the month of October) there were 330 actual cases of influenza. From the above figures it would appear that for practically every actual case, serious enough to be attended by a physician, there was also one mild atypical case, not considered serious enough to be attended by a physician.

There were 18 deaths from influenza and pneumonia reported for the entire outbreak, giving a death rate of 2.6 per 1,000 of population, as compared with 6.7 per 1,000 of population for the state. Thirteen of these deaths occurred in the first wave and five in these second. All of the above have been classified as Palo Alto deaths, regardless of length of residence, the only condition being that the disease was contracted there. During the same period there were 17 deaths at the Peninsula Hospital of persons brought from nearby towns to Palo Alto for treatment.

Support of General Public.

Prior to the outbreak frequent articles were published, dealing with the nature of the disease and preventive measures. Isolation of patients and prompt medical attention were particularly urged. Due to years of successful organized health work in Palo Alto, the health department enjoys the confidence and support of the people, and for this reason the suggestions and measures attempted usually received the prompt support of the public. There can be no doubt that the foundation of previous health work had something to do with the results obtained, and that such a foundation will have a similar favorable effect on any new problems that may arise.

The first control measure insisted upon was isolation. As the epidemic progressed the isolation became more effective and printed instructions were taken to each reported case. These set forth the necessity for excluding persons from the sick room and gave directions for disinfecting discharges from the nose and throat, and also clothing and dishes which may have become infected. Houses were not placarded. The breadwinners of the family were permitted to attend to their regular business, but children from a family where there was a case were not permitted to attend school.

Proper School Supervision.

At the first explosive outbreak of the epidemic many parents took their children out of school. For this reason, and because of strong public demands, the schools were closed on October 10. It was planned to reopen the schools on the 11th of November, but from the canvass of the city made November 1 it was learned that but few parents were willing to return their children to school. Attempts were made to allay these fears through published statements and the schools were opened on November 18. After the first few days the attendance rose to practically normal and the schools continued open. Very definite rules for exclusion of pupils from school were strictly enforced. All children coughing, sneezing, or showing any evidence whatsoever of illness were promptly excluded from the classroom and examined by the public health nurse. Those who coughed or sneezed but carried no temperature were permitted to return to their classes provided they wore suitable gauze masks. A supply of these was kept on hand at the schools and the teachers saw that these orders were obeyed. Those carrying temperatures were sent home for observation. This plan has worked admirably and has been continued to date. It will, it is believed, assist materially in controlling other respiratory diseases, such as scarlet fever, measles and whooping cough.

The Mask Ordinance.

Following the example of some other cities, regulations requiring the universal wearing of masks were adopted on October 21, and were kept in force until November 11. Although there was a sharp decline in the number of new cases reported after October 21, still there is not sufficient evidence

to prove that this was due to universal masking. The curve showing the number of cases had already commenced to drop at that time. When the order requiring universal masking was lifted, on November 11, it was required that convalescents wear masks for a period of two weeks after the temperature returned to normal. There was no practical way of enforcing such a regulation with adults, but it was followed in many cases. Children recovering from an attack were permitted to return to school one week after the temperature had returned to normal and were required to wear masks the first week in school.

All public gatherings were prohibited from October 11 to November 11. After November 11, and until the end of the epidemic, most public gatherings were permitted. All public dances were, however, prohibited, and unnecessary gatherings discouraged.

Relief Measures.

The above regulations probably prevented many cases, but it very soon became evident that relief measures would have to be taken to prevent mortality. On October 17 the local chapter of the Red Cross, the National Defenders' Club, and the health department, all co-operating, organized a relief service. The primary object was to furnish nurses. Later food and supplies were also furnished where needed. By the time of the second wave a definite and efficient relief service through the Red Cross was in operation.

The result of all of the regulations appears to have been a probable reduction in the number of cases, and the spreading of the rest over a sufficient period of time to permit proper medical attention and care. There is nothing to show that the cases in the second wave were milder than those in the first, while there were 12 deaths to October 26, and only 6 for the entire remainder of the outbreak. The effectiveness of proper medical attention and care is shown by the record made by one institution in Palo Alto, where sufficient trained help was at hand and where they had 40 cases without a single death.

Preparedness.

Should a similar epidemic break out again Palo Alto is ready to apply the same regulations which proved effective before, with the added advantage of a relief service through the Red Cross, which is ready for immediate action.

The situation may be summed up as follows:

1. Epidemic influenza made its appearance in Palo Alto in the latter part of September, 1918, about the same time it became general in the state.

2. Conditions at the time were favorable to the spread of influenza due to (*a*) close proximity of Camp Fremont, causing congestion of population and crowded housing facilities; (*b*) the opening of college, bringing together students from places where influenza was already epidemic; and (*c*) large numbers of commuters returning daily from San Francisco and San Jose.

3. There were 709 cases of influenza reported, giving a rate of 10,100 cases per 100,000 of population as compared to 9,808 per 100,000 of population for the state. Due to the completeness of the reports of cases, the rate was probably less than the actual rate for the entire state.

4. There were 18 deaths from influenza and pneumonia, giving a death rate of 2.6 per 1,000 of population as compared to 6.7 per 1,000 of population for the state.

5. Control measures found effective were: (*a*) strict isolation of patients; (*b*) schools kept open under supervision; (*c*) certain public gatherings permitted; (*d*) masking of convalescents and persons who coughed; and (*e*) efficient measures for relief.

MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California, under the Act of Congress of July 16, 1894. Acceptance for mailing at the special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized August 27, 1918.

Sent free, on request, to any citizen of California.

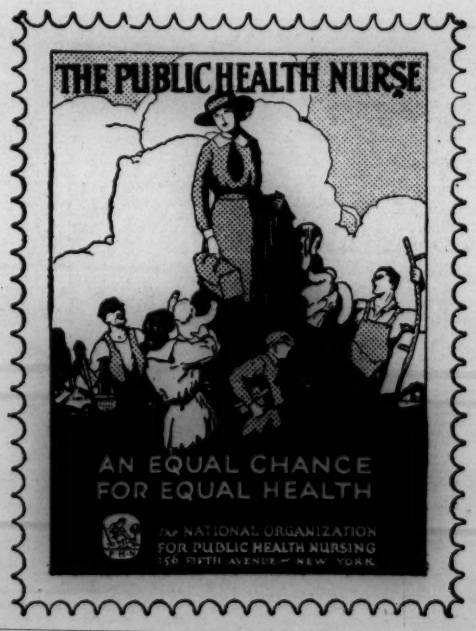
WILFRED H. KELLOGG, M.D., Secretary . . . Executive Officer
GUY P. JONES, Assistant to the Secretary . . . . . Editor

The automobile camper has become no inconsiderable factor in producing insanitary conditions in the playgrounds of California, particularly in the mountain regions. The highways leading to Lake Tahoe, the Yosemite, the Big Trees, to the Rim of the World and the Bear Lakes of Southern California, were last season dotted with automobile camps every few hundred feet of their way. Many of these campers were careful in the disposal of wastes, the burying of garbage and the destruction of litter. Others were not so careful, and as a result some of these highways not only presented a decidedly unpicturesque appearance, but the conditions that were permitted to exist constituted, in many places, a distinct menace to the public health. The State Board of Health is planning already a course of procedure for the 1920 season which it is hoped will produce the best possible sanitary conditions in the mountains. This procedure has to do not only with wayside camping places, but will also extend to summer resorts and to the small mountain towns. California's vacation land in 1920 must be perfect from a standpoint of sanitation.

Dr. Ethel M. Watters has been appointed Director of the Bureau of Child Hygiene with offices in the Underwood Building, San Francisco. The new director asks the co-operation of all child welfare organizations in California in making this Bureau of prime importance in the conservation of child life in California. The Bureau desires to receive

reports of child hygiene work in every community of the state. The compilation of statistics of work accomplished in California communities is important in order that we may know exactly where California stands in relation to other states in promoting the health of its children.

Reports of deaths from botulinus poisoning caused by eating California ripe olives have been reported in Michigan, Ohio and New York. A preliminary investigation shows that a single lot of olives from a California packing plant were responsible for the poisoning. Other lots from this plant have been examined and have been found to be in perfect condition. The exact cause of the appearance of the botulinus bacillus in this pack is now being thoroughly investigated. These cases are the first on record as due to botulinus poisoning from ripe olives. It is certain that the element of danger in eating home canned products is very much greater than in eating commercially canned products. Home canned vegetables and fruits should be regarded with much greater suspicion than commercially canned ripe olives, fruits and vegetables. Any spoiled food, however, may contain this poison. All food, therefore, which shows any evidence of decomposition or which possesses any very disagreeable odor or unnatural color, should either be discarded or be thoroughly boiled before eating.



"The maintenance of the growth of the individual is the chief requirement of the healthy growth of the state."

Communicable Disease

FRANK L. KELLY, M.D., Director
Bureau of Communicable Diseases.

Morbidity for November, 1919, by Weeks.

L. E. Ross, Morbidity Statistician.

	Weeks ending				Total, Nov., 1919	Total Nov., 1918
	Nov. 8	Nov. 15	Nov. 22	Nov. 29		
Anthrax	2				2	1
Beri-beri						
Cerebrospinal meningitis		2	1	2	5	6
Chickenpox	126	166	250	191	733	49
Cholera, Asiatic						
Dengue						
Diphtheria	104	106	113	98	421	169
Dysentery		1	3	3	7	2
Encephalitis, lethargic	3	1	3	5	12	
Erysipelas	3	7	11	8	29	15
German measles	2	2	2	3	9	6
Glanders						
Gonococcus infection	92	112	68	45	317	182
Hookworm		2			2	
Influenza	36	23	21	23	103	59,269
Leprosy	1	1	1		3	
Malaria	18	15	75	3	111	8
Measles	124	204	296	204	828	61
Mumps	69	137	97	116	419	204
Ophthalmia neonatorum	2				2	
Paratyphoid	1	2	1		4	
Pellagra	1				1	
Plague						
Pneumonia	38	26	40	39	143	201
Poliomyelitis	2				2	8
Rabies						
Rocky Mountain spotted fever						
Scarlet fever	109	131	145	112	497	122
Smallpox	41	37	57	63	198	97
Syphilis	98	71	90	47	306	97
Tetanus	1	1			2	1
Trachoma	1	1		6	8	3
Trichinosis						
Tuberculosis	155	131	105	103	494	455
Typhoid fever	25	15	14	17	71	25
Typhus fever						
Whooping cough	32	14	21	38	105	86
Yellow fever						
Totals	1,086	1,208	1,414	1,126	4,834	61,067

Parasitology.

Summary of Examinations Made in Division of Parasitology During October, 1919.

	Examinations			Persons examined		
	Positive	Negative	Total	Positive	Negative	Total
For worms—						
Fecal examinations made	21	61	82	19	48	67
Hookworm	2	80		2	65	
Oxyuris vermicularis	3	79		3	64	
Oxyuris incognita	3	79		3	64	
Trichuris trichiura	13	69		11	56	
For Protozoa:						
Fecal examinations made	83	11	94	56	11	67
Prowazekia urinarius	2	92		2	65	
Chilomastix mesnili	2	92		2	65	
Giardia intestinalis	3	91		3	64	
Trichomonas intestinalis	3	91		3	64	
Chlamydophrys stercorea	4	90		4	63	
Endamœba coli	25	69		20	47	
Endamœba dysenteriæ	32	62		28	39	
Endamœba nana	28	66		22	45	
Coccidium	4	90		2	65	
For plant parasites:						
Blastocystis	54	40		42	25	
Phycomycete spore	4	90		4	63	
Yeasts	52	42		42	25	

DIVISION OF BIOLOGICAL EXAMINATIONS.

Examinations Made by the California State Hygienic Laboratory During Month of October, 1919.

Condition suspected	Positive	Negative	Inconclusive	Total
Anthrax	1	5	----------	6
Diphtheria (diagnosis)	144	359	†23	526
Diphtheria (release)	164	217	‡10	391
Diphtheria (special investigation)*	117	818	§4	939
Dysentery	3	3	----------	6
Goncoccus infection	58	87	53	198
Malaria	18	52	1	71
Paratyphoid	----------	1	----------	1
Plague	----------	1	----------	1
Rabies	4	4	----------	8
Syphilis (Wassermann test)	69	595	37	701
Tuberculosis (sputum)	41	107	----------	148
Tuberculosis (urine)	1	----------	----------	1
Typhoid (excreta)	2	4	----------	6
Typhoid (Widal)	24	62	5	91
Miscellaneous	----------	----------	----------	7
Total	----------	----------	----------	3,101

*Manteca 257, Mayfield 90, Sebastopol 44, Vallejo 459, San Bernardino 64, Riverside 25.

†18 no growth; ‡10 no growth; §4 no growth.

DIVISION OF EPIDEMIOLOGICAL INVESTIGATION.

Epidemiological Investigations and Other Special Investigations During the Month of October, 1919.

Main Laboratory at Berkeley—

An investigation of typhoid fever in Fresno County.
An investigation of dysentery in Banning.
An investigation of botulism in Colusa.
An investigation of diphtheria in Mayfield.
An investigation of diphtheria in Vallejo.
An investigation of smallpox in Oakland.
An investigation of typhus fever in San Francisco.

"The first duty of a statesman is the care of the public health."
—Disraeli.

Social Hygiene

WILFRED H. KELLOGG, M.D., Acting Director
Bureau of Social Hygiene.

Arsenobenzol Distributed During the Month of October, 1919.

San Francisco Health Department	300
Stanford University Clinic, San Francisco	160
Good Cheer Club Clinic, San Jose	132
Los Angeles Health Department	100
Los Angeles County Hospital	100
Stockton City Clinic	60
Boyle Avenue Dispensary, Los Angeles	60
San Bernardino County Hospital	50
San Diego Venereal Clinic	50
San Joaquin County Hospital	50
Arroyo Sanatorium, Livermore	50
Mission Valley Hospital, San Diego	50
Selwyn Emmett Graves Dispensary, Los Angeles	50
San Francisco Hospital	50
Pasadena Dispensary	42
San Francisco Polyclinic	20
Santa Clara County Hospital	36
Alameda County Public Health Center	6
Berkeley Dispensary	2
	1368

Treatment Reports Received.

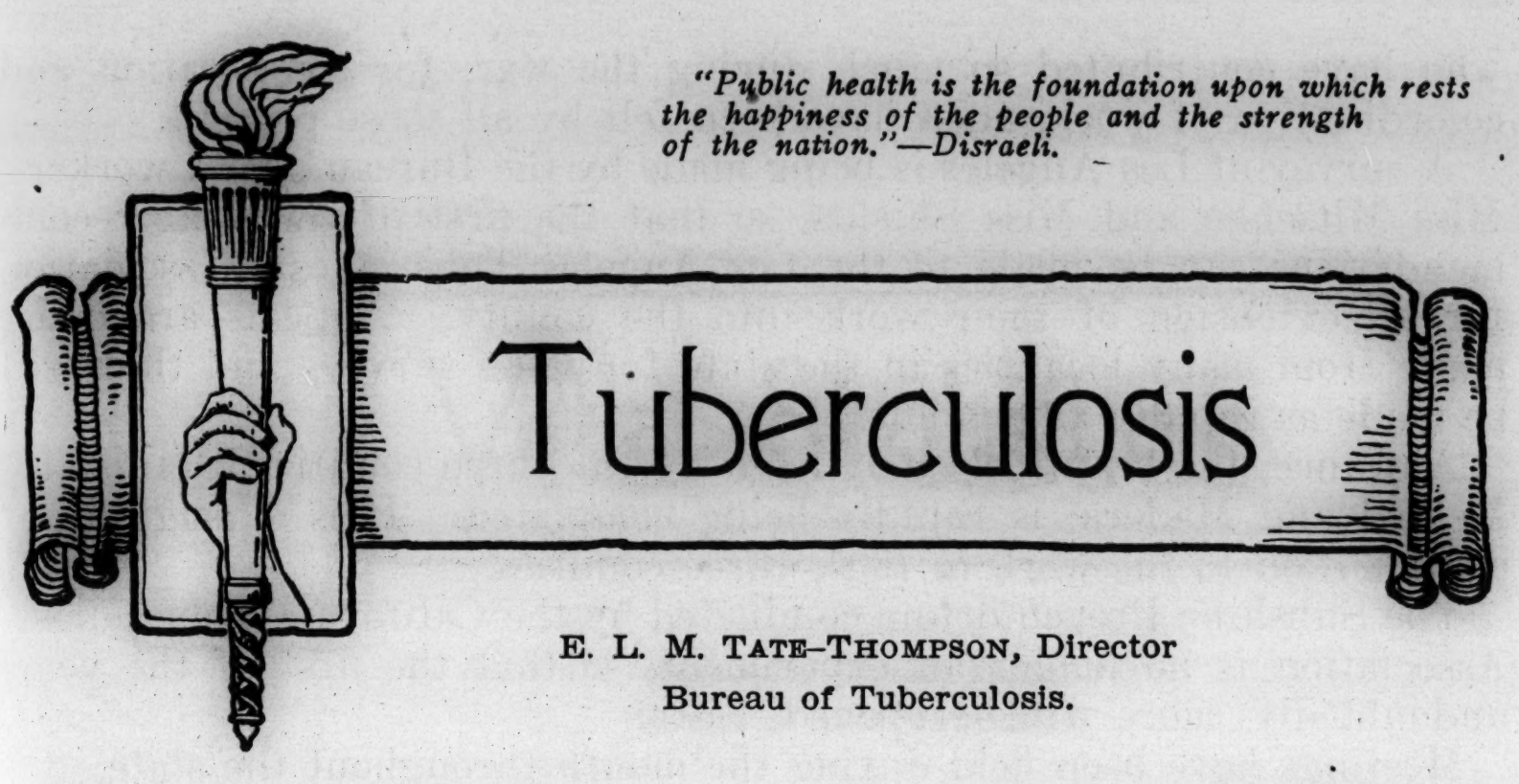
322 patients received one dose	322	
178 patients received two doses	356	
118 patients received three doses	354	
63 patients received four doses	252	
22 patients received five doses	110	
7 patients received six doses	42	
1 patient received seven doses	7	
1 patient received nine doses	9	
1 patient received ten doses	10	
713	1462	
Ampoules wasted	30	
	1492	

Other occupations	290
Housewives	144
Laborers	136
Prostitutes	61
No occupations	43
Students	39
	713
Males	371
Females	342
	713

Patients Treated.

Los Angeles Municipal Clinic	120
San Francisco Health Department Clinic	101
San Francisco Hospital	69
Los Angeles County Hospital	67
Stanford University Clinic, San Francisco	49
Los Feliz Hospital, Los Angeles	49
Good Cheer Club Clinic, San Jose	36
University of California Hospital, San Francisco	34
Boyle Avenue Dispensary, Los Angeles	31
San Bernardino County Clinic	25
Selwyn Emmett Graves Dispensary, Los Angeles	23
Stockton City Clinic	19
Fresno County Hospital	17
Pasadena Dispensary	11
Los Angeles East Side Jail	9
Kern County Hospital	8
Los Angeles Juvenile Hospital	7
San Francisco Relief Home	7
Fresno City Clinic	7
Mission Valley Hospital, San Diego	5
San Joaquin County Hospital	4
Sacramento Health Department Clinic	4
Alameda County Public Health Center	3
Berkeley Dispensary	3
Riverside County Hospital	2
Santa Barbara Cottage Hospital	1
Sacramento County Hospital	1
Orange County Hospital	1
	713

Total number of ampoules distributed	15,652
Total number of treatment cards received	14,601
Total number of treatment cards distributed and not returned	1,051
	15,652



"Public health is the foundation upon which rests the happiness of the people and the strength of the nation."—Disraeli.

Tuberculosis

E. L. M. TATE–THOMPSON, Director
Bureau of Tuberculosis.

The most important tuberculosis meeting held in the Southwest was the Southwestern Conference at Long Beach the first of the month. Delegates from Kansas to California attended; there were nearly three hundred people registered.

The program covered a wide range in the field of tuberculosis work. Much of the success of the Conference was due to the splendid representatives sent by the National Tuberculosis Association. Dr. James Alexander Miller contributed two splendid papers, one at the Medical Section on Thursday evening, and the other the following morning at the Sociological Section, when he conducted an Americanization clinic. Social workers and physicians heard tuberculosis discussed from the standpoint of racial susceptibility, the economic and social condition of the patients and the medical aspects of their cases. People afterward said that this part of the program was well worth the trip to Long Beach.

Dr. H. A. Pattison read a splendid paper on occupations suitable for the tuberculous, which the Bureau will reprint soon. He paid the occupational therapy work done under the California Tuberculosis Association the splendid compliment, that the exhibit of the patients from Arroyo was the best piece of work he had seen anywhere in the United States. By special request Dr. Pattison talked to the men in the shipyards at San Pedro.

Dr. Severance Burrage, Secretary of the Migratory Consumptive Committee, read a report. Mr. Chas. De Forrest spoke on the modern health crusade and Mr. John Tombs, Regional Secretary for the Southwest, conducted the evening meeting of state secretaries. Meetings for the nurses and local workers had very interesting programs and discussions. The Barlow Sanatorium entertained at tea the first afternoon and a trip to New Mexico was arranged for the second day.

Perhaps it may come again, we hope it may, that tuberculosis workers may be privileged to hear a program like the final one on Friday evening, when Dr. Livingston Farrand, Chairman of the Central Committee for the American Red Cross, spoke on the peace program and its relation to public health. Dr. James Alexander Miller spoke on some lessons in tuberculosis, learned from Europe's experience during the war, and Dr. William Palmer Lucas of the University of California spoke on lessons from abroad with application to the problem of tuberculosis among children in America. The plea on the part of these men,

who have contributed so much during the war, for co-operation and co-ordination of work, must have been felt by all those present.

A survey of Los Angeles is being made by the Bureau's field workers, Miss Mitschke and Miss Shields, so that the first of the year recommendations can be made to the Los Angeles Tuberculosis Association for an extension of their work into the county. Appeals are being made from many localities in the state for these surveys and they will be made as rapidly as possible.

Ahwanee, the beautiful site chosen by the three counties, Stanislaus, Merced and Madera, is rapidly being completed. It is a magnificent contribution to the work in those three counties.

The Sunshine Preventorium conducted by the California Tuberculosis Association is no longer an experiment, so that the first of the year, undoubtedly, more will be opened.

Meetings have been held during the month throughout the state.

Hospitals inspected:

Barlow.
La Vina.
San Francisco.
Los Angeles.
Ahwanee.
San Joaquin.
Preventorium.

Living Room at Antonio, Santa Barbara County Tuberculosis Sanitorium.

"Public health is purchasable."—Biggs.

Vital Statistics

GEORGE D. LESLIE, Director
Bureau of Vital Statistics.

Birth, Death and Marriage Totals, with Annual Rate per 1000 Population, for Current Month and Year to Date, for California: September.

Month or period	Total		Annual rate per 1,000 population, 1919
	1919	1918	
September—			
Births	4,342	4,991	16.2
Deaths	3,017	3,092	11.3
Marriages	3,647	3,654	13.7
January to September—			
Births	39,589	41,222	16.4
Deaths	35,324	37,246	14.6
Marriages	27,601	24,381	11.4

COUNTY MARRIAGE TOTALS.

The Counties Showing the Highest Marriage Totals for the Month Were as Follows:

Los Angeles	926	San Joaquin	106
San Francisco	583	San Bernardino	101
Alameda	347	Riverside	83
Sacramento	151	Sonoma	63
Santa Clara	135	San Mateo	54
Orange	127	Kern	53
Fresno	122	Marin	48
San Diego	111		

Deaths by Sex, Race and Nativity, for September.

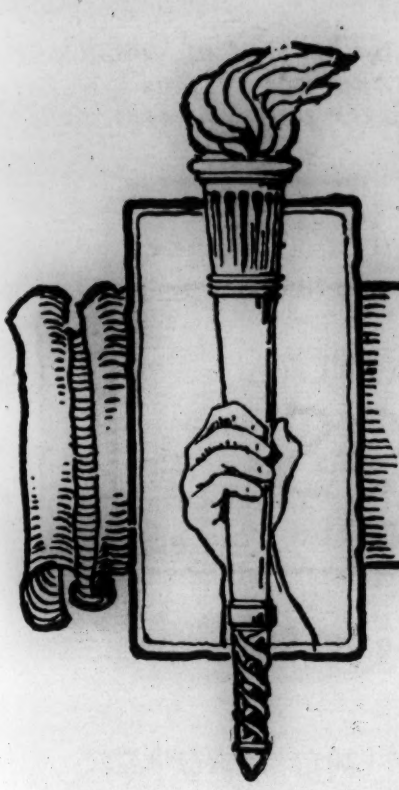
	Total	Male					Female				
	Total	Total male	Born in California	Born in other part of U. S.	Foreign born	Unknown	Total	Born in California	Born in other part of U. S.	Foreign born	Unknown
White	2,817	1,720	470	655	550	45	1,097	289	466	333	9
Black	43	21	3	16	------	2	22	4	17	------	1
Indian	18	9	9	------	------	------	9	8	1	------	------
Chinese	64	62	9	------	53	------	2	1	------	1	------
Japanese	70	43	15	2	26	------	27	13	1	13	------
Other	5	5	------	------	5	------	------	------	------	------	------
Unknown	------	------	------	------	------	------	------	------	------	------	------
Totals	3,017	1,860	506	673	634	47	1,157	315	485	347	10

Infant Mortality.

	Male	Female	Total
Less than 10 days	80	50	130
10 days to 1 month	10	11	21
Over 1 month	10	11	21
Over 2 months	11	8	19
Over 3 months	6	9	15
Over 4 months	4	4	8
Over 5 months	8	9	17
Over 6 months	11	2	13
Over 7 months	8	3	11
Over 8 months	5	1	6
Over 9 months	5	1	6
Over 10 months	8	2	10
Over 11 months	4	4	8
Totals	170	115	285

Deaths from Certain Principal Causes, with Proportion per 1000. Total Deaths for Current Month, for California: September.

Cause of death	Deaths: September	Proportion per 1,000: September
All causes	3,017	1,000.0
Typhoid fever	25	8.3
Malarial fever	2	.7
Smallpox	----------	----------
Measles	----------	----------
Scarlet fever	4	1.3
Whooping cough	8	2.7
Diphtheria and croup	13	4.3
Influenza	24	8.0
Other epidemic diseases	6	2.0
Tuberculosis of lungs	301	99.8
Tuberculosis of other organs	67	22.2
Syphilis and gonorrhea	24	8.0
Cancer	278	92.1
Other general diseases	85	28.2
Meningitis	9	3.0
Other diseases of nervous system	270	89.5
Diseases of circulatory system	566	187.6
Pneumonia and broncho-pneumonia	105	34.8
Other diseases of respiratory system	30	9.9
Diarrhea and enteritis, under 2 years	84	27.8
Diarrhea and enteritis, 2 years and over	38	12.6
Other diseases of digestive system	177	58.7
Bright's disease and nephritis	179	59.3
Childbirth	27	8.9
Diseases of early infancy	153	50.7
Suicide	59	19.6
Other violence	234	77.6
All other causes	249	82.5



"Health is the essential factor in productiveness, prosperity, and happiness, and hence in the advancement of civilization."—Sir Frederick Treves.

Sanitary Engineering

C. G. GILLESPIE, C.E., Director
Bureau of Sanitary Engineering.

Interest continues in the sanitation of swimming pools. During the month a conference was held with the Southern California Bath House Association, whose members were anxious to inquire what of the regulations governing swimming pool sanitation the State Board of Health would insist upon before granting a certificate of sanitation. The subject was discussed in a general way before the association and detailed inspections followed at each of the individual plunges, some of which are the largest in the state. A similar service has been performed at the Riverside plunge in Sacramento and Neptune Beach in Alameda.

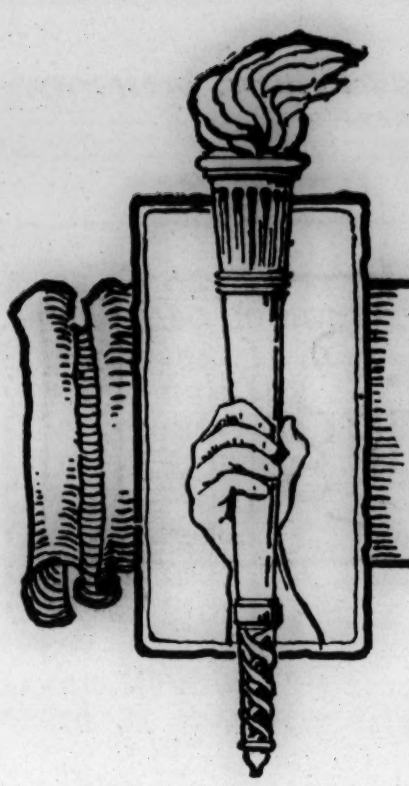
* * *

Some study was given to the condition and safety of private wells in Alameda, of which there are a considerable number, typical of well supplies in most built-up sections where the ground water plane is high. Analyses indicate that such wells are not to be counted on as safe. The condition of safety appears to be intermittent and difficult to predict. Similar inquiries for investigation of polluted wells were received from Modesto and the Shore Acres Dairy at San Leandro.

* * *

It is evident that more and more the question of industrial waste disposal is becoming acute in California. During the month preliminary investigation was made of the disposal of miscellaneous dairy wastes into the Salinas River in the vicinity of Gonzales and Soledad. The wastes from this industry become extremely foul when in a rancid condition and so far no satisfactory method of disposal is being employed. The problem is further complicated by the fact that little work has been done anywhere on the treatment of this type of waste. As growth of the surrounding country increases and isolation decreases, these enterprises will assuredly be compelled to handle an extremely difficult waste disposal problem.

"We have no say as to the kind of man timber out of which our ancestors were made, but we have a say, and are responsible for the man timber out of which our descendants will be fashioned."
—Chas. J. Hastings, M. D.



Foods AND Drugs

E. J. LEA, M.S., Director
Bureau of Foods and Drugs.

A total of 424 samples were received at the laboratory during the month. The 81 official samples collected by the inspectors consisted of beverages, butter, candy, cheese, chocolate, coffee, condiments, cream, eggs, fruits, ice cream, meat, milk, noodles, syrup and vegetables.

Two hundred ninety-four unofficial samples were collected, consisting of beer, beverages, coffee, condiments, catsup, eggs, feed, fish, fruit, fruit pulp, jam, noodles, peanuts, soup, vegetables and walnut meats.

Forty-nine samples from state institutions were received during the month, consisting of rolled oats, salad oil, oysters, rice, soap, soup, spaghetti, spices, tapioca and tea.

CASES REFERRED TO THE DISTRICT ATTORNEYS.

(Only southern California cases were heard at this meeting.)

The following cases were referred to the district attorneys for prosecution at the October meeting of the State Board of Health:

Los Angeles—Sunrise Conserves Company, strawberry jelly, with apple, raspberry jelly, with apple; Savoy Drug Company, citrate magnesia.

Petaluma—Must Hatch Hatchery, frozen eggs.

San Francisco—Hale Importing Company, walnut meats.

CONVICTIONS UNDER FOODS AND DRUGS ACTS REPORTED DURING OCTOBER.

Long Beach—Curtis Corporation, Curtisola Antipasto, adulterated and mislabeled, fined $50, Curtisola Antipasto, adulterated and mislabeled, fined $50.

Los Angeles—Aycock Medical Company, "Woman Again," mislabeled, fined $100; Aycock Medical Company, "Man Again," mislabeled, two years probation; Aycock Medical Company, "New Life," mislabeled, two years probation; Pablo Baca, chocolate, adulterated and mislabeled, fined $15; Brazelle Aquazone Company, Incorporated, adulterated and mislabeled, fined $25; California Bakers' Specialty Company, Or-rangerie Paste, adulterated and mislabeled, fined $25; California Bakers' Specialty Company, imitation bakers' jelly, adulterated and mislabeled, fined $25; H. Jevne Company, Inc., corned beef and cabbage, adulterated and mislabeled, fined $10; H. Jevne Company, Inc., New England boiled dinner, adulterated and mislabeled, fined $20; H. Jevne Company, Inc., corned beef and cabbage, adulterated and mislabeled, fined $20; Mills Eczema Remedy Company, Mills Eczema Remedy, mislabeled, fined $25; Augustin Moreno, chocolate, adulterated and mislabeled, fined $15; Phillips & Leonard, lemon extract, adulterated and mislabeled, fined $10; Reitz Pharmacy, camphorated oil, adulterated, fined $25; Joseph San Roman, chocolate, adulterated and mislabeled, fined $20.

Merced—The Cash Meat Market, chopped meat, adulterated, fined $25; Tuolumne Restaurant, chopped meat, adulterated, fined $10.

Modesto—Central Drug Store, citrate magnesia, adulterated, O.R. 6 months; Central Drug Store, camphorated oil, adulterated, fined $25; Diamond Market, sausage, adulterated and mislabeled, O.R. 6 months; Golden West Market, chopped meat, adulterated, fined $10.

Oakland—D. N. Kessel, fresh eggs, adulterated and mislabeled, fined $5.

Petaluma—Nisson Brothers, incubator eggs, adulterated and mislabeled, fined $100.

Porterville—City Cash Market, chopped meat, adulterated, fined $5; Pioneer Market, chopped meat, adulterated, fined $5.

Sonora—J. N. Lyon, Springfield whiskey, adulterated and mislabeled, fined $10; Verdi Saloon, London dry gin, adulterated and mislabeled, fined $10.

Turlock—Sweet and Boies Drug Company, camphorated oil, adulterated, fined $25.

ARTICLES CONDEMNED DURING OCTOBER, 1919.

Egg Meats—1460 pounds, decomposed, San Francisco.

Poultry—300 pounds, decomposed, Los Angeles.

Prunes—7935 pounds, decomposed, San Francisco.

Raisins—68 eleven-ounce packages, rain damaged and mouldy, Oakland; 900 pounds, wormy, mouldy, Modesto.

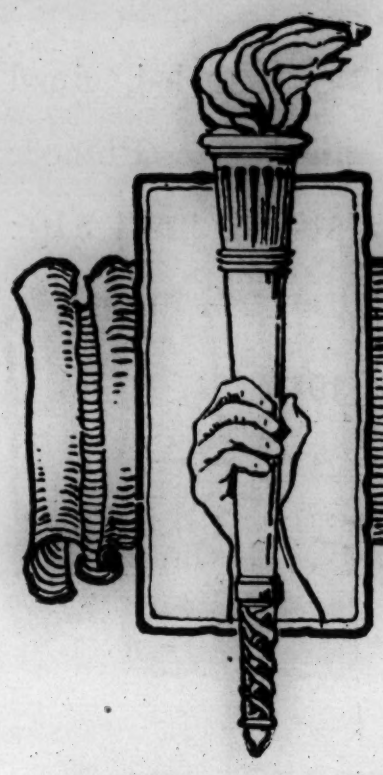
Tomato Puree—550 five-gallon tins, unfit for food, San Francisco.

Tomatoes—9000 pounds, unfit for food, Los Angeles.

REPORT ON MATERIAL IN COLD STORAGE, OCTOBER 1, 1919.

Apple butter	300 lbs.
Barley, pearl	108 lbs.
Beer	207 bbls.
Beer, nonalcoholic	69 bbls.
Bulbs	4,599 lbs.
Butter	2,277,922 lbs.
Buttermilk	8 bbls.
Candy	111,631 lbs.
Cereals	54,101 lbs.
Cheese	4,118,004 lbs.
Chili	75,752 lbs.
Chocolate	5 lbs.
Cider	476 bbls.
Cocoanut, dry	1,739 lbs.
Cream	120 gals.
Eggs—	
Canned	1,208 lbs.
Fresh	7,408,068 doz.
Frozen	105,175 lbs.
Egg meat	395,696 lbs.
Fish—	
Cured	1,386,400 lbs.
Dried	303,980 lbs.
Fresh	753,817 lbs.
Pickled	157,100 lbs.
Shell	84,240 lbs.
Smoked	13,231 lbs.
Flour	3,562 lbs.
Fruit, dried—	
Apricots	1,475 lbs.
Dates	3,613 lbs.
Figs	7,447 lbs.
Miscellaneous	725,916 lbs.
Peaches	120 lbs.
Prunes	2,152 lbs.
Raisins	53,219 lbs.
Fruit, fresh—	
Apples	15,443,811 lbs.
Berries, frozen	371 crts.
Berries, miscellaneous	365,110 lbs.
Cranberries	66 bbls.
Grapes	157,620 lbs.
Grapefruit	9,150 lbs.
Miscellaneous	9,782,471 lbs.
Oranges	45,839 lbs.
Peaches	309 377 lbs.
Pears	2,459,672 lbs.
Plums	26,618 lbs.
Prunes	4,879 lbs.
Quinces	16 lbs.
Strawberries	44,746 lbs.
Fruit, preserved	1,150 lbs.
Fruit juice and pulp	778,286 lbs.
Fruit peel	7,330 lbs.
Furs	467 lbs.
Honey	22 lbs.
Ice cream	1,000 gals.
Lard	181,097 lbs.
Leaves	3,000 lbs.
Meat, fresh—	
Beef	201,890 lbs.
Miscellaneous	1,292,245 lbs.
Mutton	3,783 lbs.
Pork	18,900 lbs.
Sausage	2,075 lbs.
Veal	734 lbs.
Venison	95 lbs.
Meat, frozen—	
Beef	1,900 lbs.
Miscellaneous	714,587 lbs.
Pork	670 lbs.
Meat, pickled—	
Miscellaneous	33,720 lbs.
Pork	64,445 lbs.
Milk, canned	92,192 lbs.
Milk, condensed	795 bbls.
Mincemeat	19,234 lbs.
Molasses	12,842 lbs.
Nuts	410,294 lbs.
Nut meats	1,983,639 lbs.
Oatmeal	1,505 lbs.
Oil, olive	32,940 gals.
Oil, salad	319 gals.
Oleomargarine	64,431 lbs.
Olives	5 cases
Peanut butter	160 lbs.
Pepper	28 pkgs.
Pickles	36 lbs.
Plants	133 lbs.
Poi	221 lbs.
Pop corn	29,733 lbs.
Poultry—	
Broilers	59,686 lbs.
Chickens	11,206 lbs.
Ducks	6,850 lbs.
Fowl	51,615 lbs.
Geese	1,000 lbs.
Miscellaneous	1,229,630 lbs.
Rabbits	19,288 lbs.
Squabs	4,320 lbs.
Turkeys	57,072 lbs.
Rice	4,331 lbs.
Rugs	522 lbs.
Shortening compound	9,130 lbs.
Sugar beet	186 lbs.
Syrup	1,746 lbs.
Tallow	25,410 lbs.
Vegetables:	
Beans	975 lbs.
Cauliflower	100 lbs.
Celery	15 crts.
Cucumbers	140 lbs.
Egg plant	530 lbs.
Horseradish	132,826 lbs.
Miscellaneous	13,570 lbs.
Onions	21,526,316 lbs.
Parsnips	17 sks.
Peppers	115,519 lbs.
Potatoes	275,821 lbs.
Sauerkraut	42,884 lbs.
Sweet potatoes	553 lbs.
Tomatoes	750 lbs.

"To make a country really safe for democra cy we must first make it healthy."—Farrand.



Nursing News

ANNA C. JAMMÉ, R.N., Director
Bureau of Registration of Nurses.

During the month of October the Director was granted a short leave of absence to attend the executive meetings of the three national organizations of nurses, namely, the American Nurses Association, the League of Nursing Education and the National Organization for Public Health Nursing. These meetings were held in New York City, and while no formal action was taken on any policy pertaining to nursing work or nursing education, new work was started along several lines and committees organized. The nurses of the country are represented in these three organizations and it is through these bodies that the general policy of the training of nurses is formulated.

EXAMINATION OF NURSES.

An examination of graduate nurses for the certificate as registered nurse was held on October 29 and 30, with an attendance of 279 candidates, which is the largest number taking the examination at any one time since the passage of the act. Examinations are held three times each year in February, June and October.

The need of having qualified nurses properly licensed and registered is becoming increasingly apparent. With short courses given in every part of the state for home nursing which can fit women to do only the most elementary nursing in their own homes, and which are exceedingly valuable, these courses have led to the practice of nursing as an occupation in many instances. When such students go out and nurse obstetrical cases, as we have found done, demanding compensation equal to that of a fully prepared nurse, they become a real danger, as the public is unable to distinguish the nurse who is safe and the one who is not. A nurse who is registered on examination proves that she meets minimum requirements for safety in her practice, and furthermore that some authority has passed on the type of training she has received. She may fail in many ways and registration can not guarantee her, but she at least comes up to an authorized standard.

There are now two statutes in this state requiring registration on the part of a nurse employed, one, chapter 135, which provides that "the board of trustees, council or other corresponding board of any incorporated town or city of this state may employ one or more public health nurses, each of whom shall be a registered nurse possessing such qualifications as may at the date of her employment be prescribed by the State Board of Health"; two, an act which provides that a nurse appointed by any educational department shall have a health and development certificate, this certificate to be obtained only on registration of a nurse in this state.

385 1-20 7,500